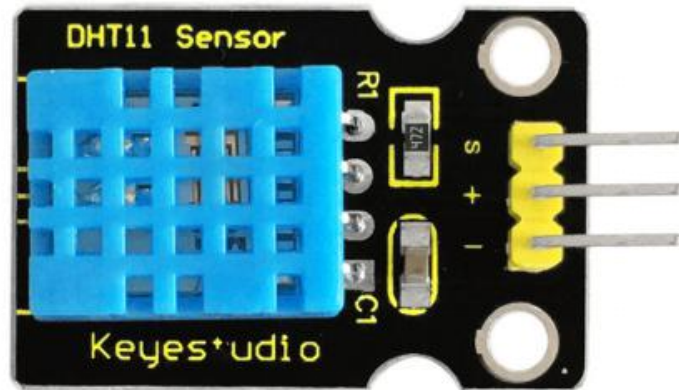


DHT11 Temperature and Humidity Sensor



Introduction

This DHT11 Temperature and Humidity Sensor is a composite sensor which contains a calibrated digital signal output of the temperature and humidity.

Its technology ensures high reliability and excellent long-term stability. A high-performance 8-bit microcontroller is connected.

This sensor includes a resistive element and a sense of wet NTC temperature measuring devices. It has excellent quality, fast response, anti-interference ability and high cost performance advantages.

Each DHT11 sensor features extremely accurate calibration data of humidity calibration chamber. The calibration coefficients stored in the OTP program memory, internal sensors detect signals in the process, and we should call these calibration coefficients.

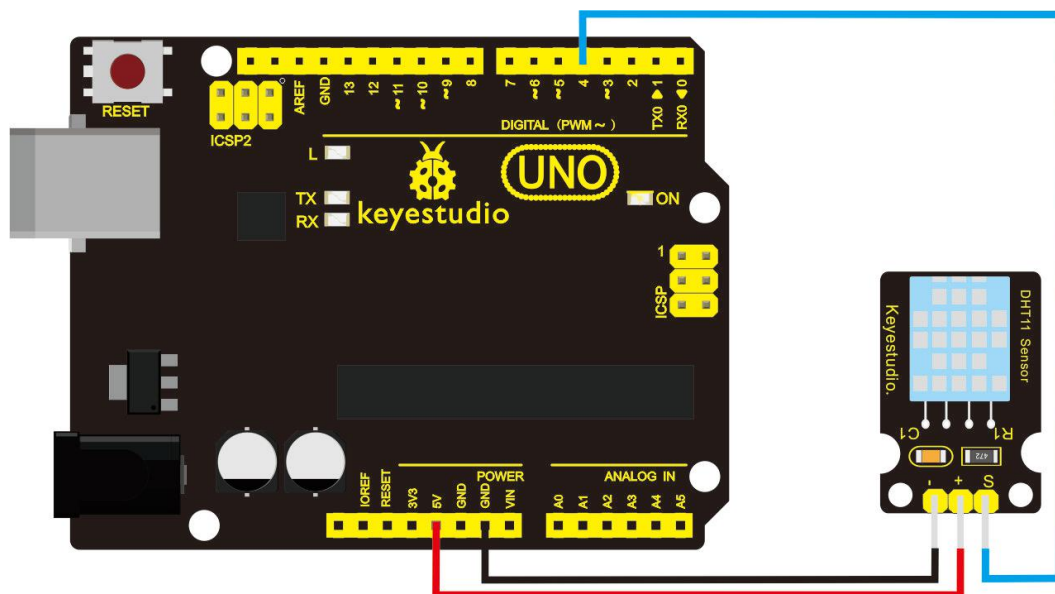
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The single-wire serial interface system is integrated to make it quick and easy. Qualities of small size, low power, and 20-meter signal transmission distance make it a wide applied application or even the most demanding one. Convenient connection, special packages can be provided according to users' need.

Specification

- Supply Voltage: +5 V
- Temperature range: 0-50 °C error of ± 2 °C
- Humidity: 20-90% RH $\pm 5\%$ RH error
- Interface: Digital

Connection Diagram



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Sample Code

Note: before compiling the code, do remember to place the library into libraries directory of Arduino IDE. Otherwise, compiling will fail.

```
#include <dht11.h>
```

```
dht11 DHT;
```

```
#define DHT11_PIN 4
```

```
void setup(){
```

```
  Serial.begin(9600);
```

```
  Serial.println("DHT TEST PROGRAM ");
```

```
  Serial.print("LIBRARY VERSION: ");
```

```
  Serial.println(DHT11LIB_VERSION);
```

```
  Serial.println();
```

```
  Serial.println("Type,\tstatus,\tHumidity (%),\tTemperature (C)");
```

```
}
```

```
void loop(){
```

```
  int chk;
```

```
  Serial.print("DHT11, \t");
```

```
  chk = DHT.read(DHT11_PIN);  // READ DATA
```

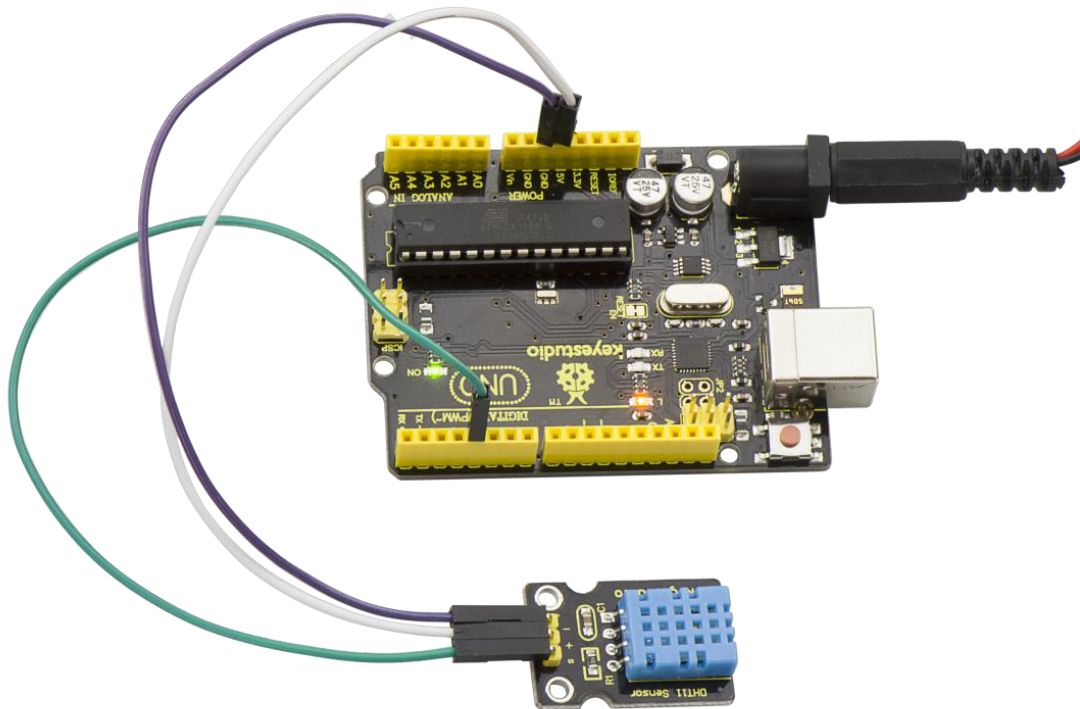
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```
switch (chk){  
    case DHTLIB_OK:  
        Serial.print("OK,\t");  
        break;  
  
    case DHTLIB_ERROR_CHECKSUM:  
        Serial.print("Checksum error,\t");  
        break;  
  
    case DHTLIB_ERROR_TIMEOUT:  
        Serial.print("Time out error,\t");  
        break;  
  
    default:  
        Serial.print("Unknown error,\t");  
        break;  
  
}  
  
// DISPLAT DATA  
  
Serial.print(DHT.humidity,1);  
  
Serial.print(",\t");  
  
Serial.println(DHT.temperature,1);  
  
  
delay(1000);  
  
}  
  
*****
```

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Example Result

Wire it up well and upload the above code to UNO board.



Then open the serial monitor and set the baud rate to 9600, you will see the current temperature and humidity value.

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